Georgia Youth Obesity:
Georgia High School Youth Risk Behavior Survey

Presentation to: Chronic Disease University
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Date: October 8, 2015
Objectives

1. To describe Georgia High School Youth Risk Behavior Survey
2. To describe obesity in the context of BMI percentile
3. To describe youth obesity among Georgia high school students
GEORGIA HIGH SCHOOL
YOUTH RISK BEHAVIOR SURVEY
Youth Risk Behavior Survey (YRBS) Methods

• Biennial
• Questionnaire development (HS)
  – At least 60 of 89 questions from standard
  – Total number of questions less than 100
  – 8th grade reading level
2013 Youth Risk Behavior Survey

Sample

• Sample of students enrolled in public high schools
  – Regular public schools
  – Alternative schools

• Sample of 50 high schools

• 1,992 students in 35 public high schools
  – Representative of 9th – 12th grade students
What YRBS Measures

- Behaviors that result in unintentional injury and violence
- Tobacco use
- Alcohol and other drug use
- **Dietary behavior**
- **Physical activity**
- **Height, Weight**
17 Healthy People 2020 Targets & 2013 Georgia and National YRBS

- Offered Drug on School Property
- Smoking Cessation
- Cigar Use
- Smokeless Products
- Cigarette Use
- Tobacco Use
- Binge Drinking
- Riding with a Drinking Driver
- Computer Screen Time
- TV Viewing
- Physical Education
- Physical Activity
- Disordered Eating Behaviors
- Suicide Attempts
- Weapon Carrying on School Property
- Bullying on School Property
- Physical Fighting

Percent (%)

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BODY MASS INDEX, OVERWEIGHT, OBESITY AND YOUTH
What is Body Mass Index

• BMI = weight/height^2
  – Weight in kilograms
  – Height in meters

• Children and youth (ages 2-20) BMI percentile is relative to other children of same sex and age in the U.S. who participated in...

• Cross-sectional, nationally representative surveys
  – National Health Examination Survey II & III (1963-65; 1966-70)
BMI Status by Percentile

- **Underweight** – less than the 5th percentile
- **Normal/Healthy Weight** – 5th percentile to less than the 85th percentile
- **Overweight** – 85th to less than 95th percentile
- **Obese** – equal to or greater than the 95th percentile

Cutoffs based on recommendations from an Expert Committee comprised of professional organizations, experienced scientists, and clinicians.
Body Mass Index (BMI) Growth Curve: Females and Males

- **Female 95th Perc.**
- **Female 85th Perc.**
- **Female 5th Perc.**
- **Male 95th Perc.**
- **Male 85th Perc.**
- **Male 5th Perc.**

![BMI Growth Curve Chart](image-url)
BMI Example

• What is the BMI Status for a 10 year old Male with a BMI of:
  – 23
  – 21
  – 18
  – 13
BMI Percentile & Status Example

Body mass index-for-age percentiles:
Boys, 2 to 20 years

A 10-year-old boy with a BMI of 23 would be in the obese category (95th percentile or greater).

A 10-year-old boy with a BMI of 21 would be in the overweight category (85th to less than 95th percentile).

A 10-year-old boy with a BMI of 18 would be in the healthy weight category (5th percentile to less than 85th percentile).

A 10-year-old boy with a BMI of 13 would be in the underweight category (less than 5th percentile).
Why Body Mass Index?

• Inexpensive, easy-to-perform method of **screening** for weight categories (read “not a diagnosis”)

• **One indicator/proxy/indirect measure** of body fat

• Correlated with **direct** measures of body fat
  – Skinfold thickness, bioelectrical impedance, densitometry, dual energy x-ray absorptiometry
Youth Self-Reported Height & Weight

- Underestimates prevalence of obesity compared to BMI calculated from measured height and weight
- Useful for tracking BMI trends over time
  – Self-report trends track measured trends
Health Impact of Youth Obesity

**NOW**
- 70% of obese children had at least one CVD risk factor and 39% had two or more
- Increased risk of impaired glucose tolerance, insulin resistance and type 2 diabetes
- Breathing problems, such as sleep apnea, and asthma
- Joint problems and musculoskeletal discomfort
- Fatty liver disease, gallstones, and gastro-esophageal reflux
- Psychological stress such as depression, behavioral problems, and issues in school
- Low self-esteem and low self-reported quality of life
- Impaired social, physical, and emotional functioning

**LATER**
- Obese children are more likely to become obese adults
- Adult obesity is associated with a number of serious health conditions including heart disease, diabetes, and some cancers
- If children are overweight, obesity in adulthood is likely to be more severe

*We Protect Lives.*
GEORGIA HIGH SCHOOL STUDENT OVERWEIGHT AND OBESITY
Percentage of Georgia High School Students who were Overweight or Obese by Sex, and Race/Ethnicity, and Grade, 2013

- Male students more likely than female students to be obese (no difference in overweight status by sex)
- No difference in overweight or obesity percent by grade
- NH Black students were more likely to be overweight and obese than NH White students

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Percentage of Georgia High School Students who were Overweight or Obese by Year, 2003-2013

![Graph showing the percentage of Georgia high school students who were overweight or obese by year from 2003 to 2013. The graph includes data points for each year with a red line for overweight and a blue line for obese. The years 2003, 2005, 2007, 2009, 2011, and 2013 are marked with corresponding data points.]
From 2003-2013, male students more likely to be obese than female students.

Females more likely to be obese in 2013 compared to 2003.
Percentage of Georgia High School Students who were Obese by Race/Ethnicity and Year, 2003-2013

- Beginning in 2011, NH Black students more likely than NH White students to be obese
- No difference in obesity between NH black and Hispanic students and NH white and Hispanic students

*NH: Non-Hispanic
Percentage of Georgia High School Students who were Obese by Grade and Year, 2003-2013

- 10th grade students more likely to be obese in 2013 as compared to 2003
- No difference in obesity by grade across each year
THANK YOU!

QUESTIONS?